Complete Summary

TITLE

Standardized methods for labeling, packaging and storing medications: percentage of failures in maintenance of medication and equipment available on cardiac arrest carts.

SOURCE(S)

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the Measure Validity page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to determine the percentage of failures in the maintenance (use-by dates, stocks and easy location) of medications and equipment available on cardiac arrest trolleys.

RATIONALE

Improper labeling, packaging and maintenance control of medications are well-known causes of serious medication errors. However, the evidence shows that there are effective methods for simplifying pharmacy dispensing by standardizing the labeling of medication containers and drawn-up syringes and the packaging of medications. Correct maintenance of cardiac arrest carts is of particular importance to prevent serious adverse events.

Main aim of indicator: to reduce the number of errors connected with maintenance (use-by dates, stocks and location) of medications and equipment available on cardiac arrest carts.

PRIMARY CLINICAL COMPONENT

Cardiac arrest carts; failures in maintenance of medication and equipment

DENOMINATOR DESCRIPTION

Total number of errors possible failures assessed in a selected at random cardiac arrest cart (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Number of failures detected x 100

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Overall poor quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Advanced Practice Nurses
Allied Health Personnel
Nurses
Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Unspecified

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

No cardiac arrest cart was completely well maintained. Average percentage of failures per cart was 5.4% ± 0.1 (95% Confidence Interval).

EVIDENCE FOR INCIDENCE/PREVALENCE

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Unspecified

UTILIZATION

Unspecified

COSTS

Unspecified

IOM CARE NEED

End of Life Care
Getting Better

IOM DOMAIN

Effectiveness
Safety

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

A selected at random cardiac arrest cart

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Total number of possible failures assessed* in a selected at random cardiac arrest cart

*The aspects (possible failures) to assess are:

a.   There is a list of the set and stocks of medications and equipment that the cart should have
b.   The cart contain the expected set and quantity of medications and equipment
c.   The cart does not contain any medications past their use-by date
d.   All expected medications and equipment are easily located

The hospital cardiac arrest cart list will be used to assess the cart contents and some maintenance criteria. Any aspects missing from the list, (e.g., stocks) may not be assessed. Item c) will be evaluated in all cases and for all medications and equipment in the cart.

Exclusions
The hospital cardiac arrest cart list will be used to assess the cart contents and some maintenance criteria (see Denominator Inclusions). Any aspects missing from the list, (e.g., stocks) may not be assessed.

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions
Number of failures detected x 100

Exclusions
None

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Encounter or point in time

DATA SOURCE

Special or unique data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

None

<div style="background:#8c8cf0; color:white; text-align:center; font-weight:bold;">Computation of the Measure</div>

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a lower score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

<div style="background:#8c8cf0; color:white; text-align:center; font-weight:bold;">Evaluation of Measure Properties</div>

EXTENT OF MEASURE TESTING

After pilot testing, the set of indicators has been measured in a random sample of 25 Spanish hospitals, stratified by hospital size. The main objective has been to field test the feasibility of measurement in the various settings representing real life situations in the context of the Spanish Health Care System.

Both the whole indicators validation report and the results of the baseline measurement in a sample of the Spanish National Health Service (NHS) hospitals may be accessed and downloaded from the Spanish Ministry of Health web page (in Spanish):

- Validation report
- Results of baseline measurement in Spanish NHS hospitals

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

Ministerio de Sanidad y Consumo. Construccion y validacion de indicadores de buenas practicas sobre seguridad del paciente. Madrid: Ministerio de Sanidad y Consumo; 2008. 178 p.

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

ORIGINAL TITLE

Percentage of failures in maintenance of medication and equipment available on cardiac arrest carts.

MEASURE COLLECTION

Safe Practices Indicators Project

MEASURE SET NAME

Increase Safe Medication Use

MEASURE SUBSET NAME

Standard Methods for Labeling, Packaging and Storing Medication

SUBMITTER

Spanish Agency for Healthcare Quality of the Spanish Ministry of Health

DEVELOPER

Grupo de Investigación sobre Gestión de la Calidad en Servicios de Salud, University of Murcia, under contract to the Spanish Ministry of Health

FUNDING SOURCE(S)

Agency for Quality, Spanish Ministry of Health

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

Saturno, Pedro J., MD, DrPH; Group Director and Project PI

Castillo, Carmen; López, M. José; Ramón, Teresa; Nurses

Carrillo, Andrés, MD; Intensive Care Specialist

Iranzo, M. Dolores; Hospital pharmacist

Soria, Victor, MD; Surgeon

Parra, Pedro, MD; Gomis, Rafael, MD; Gascón, Juan J., MD; Quality Management Specialists

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Project entirely financed by the Spanish Ministry of Health.

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2009 Feb

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

MEASURE AVAILABILITY

The individual measure, "Percentage of Failures in Maintenance of Medication and Equipment Available on Cardiac Arrest Carts," is published in "Safe Practices Indicators Project: Background, Summary of Methods and Measurement Strategies."

For more information, contact:

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COMPANION DOCUMENTS

The following are available:

- Ministerio de Sanidad y Consumo. Construccion y validacion de indicadores de buenas practicas sobre seguridad del paciente. Madrid: Ministerio de Sanidad y Consumo; 2008. 178 p. This document is available in Portable Document

Format (PDF) from the Ministry of Health and Social Policy Web site (in Spanish).

- Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p. This document is available in PDF from the Ministry of Health and Social Policy Web site (in Spanish).

NQMC STATUS

This NQMC summary was completed by ECRI Institute on September 11, 2009. The information was verified by the measure developer on December 23, 2009.

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